IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Henriksson et al.
Serial No. : 10/525,640
Filed : February 25, 2005
Title : 2,5-DIOXOIMIDAZOLIDIN-4-YL ACETAMIDES AND ANALOGUES AS INHIBITORS OF METALLOPROTEINASE MMP12

Art Unit : 1626
Examiner : Joseph R. Kosack

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

This paper is responsive to a Restriction Requirement (RR) having a mail date of January 23, 2006.

The Office is requiring that Applicants elect "a single invention" (RR, page 3) for examination purposes. The Office has indicated that Applicants can either (i) elect one of the exemplary restriction Groups I-VIII; or (ii) propose an alternative grouping of substituent values for the variables recited in the present claims (Z^1, Z^2, Y, R^1, R^2, R^3, X, L, and G^2). According to the Office (RR, page 3, bold emphasis in original):

> Therefore, Applicant may choose to elect a single invention by identifying another specific embodiment not listed in the exemplary groups of the invention and Examiner will endeavor to group the same. **If Applicant is unable to elect a single invention, Applicants may instead choose to elect a specific compound and Examiner will attempt to group it.**

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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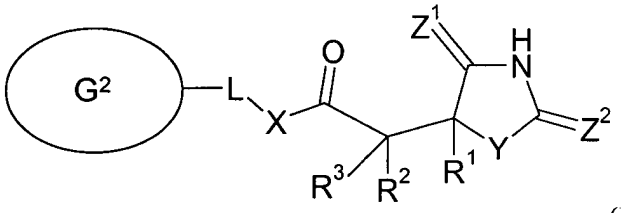
Applicants do not wish to elect one of the exemplary groups I-VIII set forth in the RR, nor do Applicants wish to elect a specific compound. Rather, Applicants offer for consideration the following group:

Claims 1-6, 8-11, 13, and 18-20 directed to compounds, pharmaceutical compositions, and methods of using a compound of formula (I) below, in which the following variables apply:



(I)

X is NR^4, and $\mathbf{R^4}$ is C_1-C_6 alkyl or hydrogen (H);

Y is NH or NCH_3;

Each of $\mathbf{Z^1}$ and $\mathbf{Z^2}$ is oxygen (O);

$\mathbf{R^1}$ represents:

(i) hydrogen or

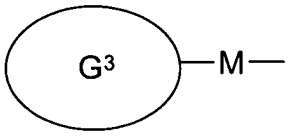
(ii) a group selected from C_1-C_6 alkyl and a saturated or unsaturated 3- to 10-membered ring system which may comprise at least one ring heteroatom selected from nitrogen, oxygen and sulphur, each group being optionally substituted with at least one substituent selected from halogen, hydroxyl, cyano, carboxyl, $-NR^5R^6$, $-CONR^7R^8$, C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylcarbonyl(oxy), $-S(O)_mC_1$-C_6 alkyl where m is 0, 1 or 2, C_1-C_6 alkylsulphonylamino, C_1-C_6 alkoxycarbonyl(amino), benzyloxy and a saturated or unsaturated 5- to 6-membered ring which may comprise at least one ring heteroatom selected from nitrogen, oxygen and sulphur, the ring in turn being optionally substituted with at least one substituent selected from halogen, hydroxyl, oxo, carboxyl, cyano, C_1-C_6 alkyl, C_1-C_6 alkoxycarbonyl and C_1-C_6 hydroxyalkyl;

$\mathbf{R^2}$ represents hydrogen or C_1-C_6 alkyl;

$\mathbf{R^3}$ represents hydrogen or C_1-C_6 alkyl;

L is C_2-C_6 alkyl (including both straight chain and branched, e.g., but not limited to $-CH_2CH_2-$ or $-CH(CH_3)CH_2-$); and

$\mathbf{G^2}$ is phenyl substituted with



in which **M** is a bond and $\mathbf{G^3}$ is phenyl optionally substituted with halogen, hydroxyl, cyano, nitro, C_1-C_6 alkyl (optionally substituted by one or more of cyano, halogen, hydroxyl and methoxy), C_2-C_6 alkenyl, C_1-C_6 alkoxy (optionally substituted by one or more halogen atoms), $-S(O)_tC_1$-C_6 alkyl where t is 0, 1 or 2, C_1-C_6 alkylcarbonyl(amino), C_1-C_6 alkylcarbonyloxy, phenyl, benzyloxy and $-NR^{11}R^{12}$; and R^{11} and R^{12} each independently represent hydrogen or C_1-C_6 alkyl optionally substituted by at least one substituent selected from hydroxyl, halogen and C_1-C_6 alkoxy.

In summary, the groupings proposed above by Applicants correspond to compounds of formula (I) having the following general structure: